

XIOMTEK 600

Description:

A patent pending thermal spray powder comprising modified nylon and thermoset resins. This coating is multi phase and bonds readily to most surfaces, including steel, aluminum, fiberglass, masonry and wood by gripping deep into surface imperfections as it flows and wets to form smooth and continuous films.

Useful as a one step coating applied directly to the substrate for both interior and long term exterior exposure. No liquid primer or bond coat required except on steel substrates used for exterior applications, which then calls for XT725 zinc rich bond coat.

Specially designed for thermal spraying. XT600 powders overcome many of the bonding problems normally encountered when thermal spraying generic plastic powders.

Application Data:

Surface preparation

Refer to the Coatings Manual for proper substrate preparation. Each substrate material, i.e. steel, aluminum, masonry, fiberglass, wood, tile, plastics etc. requires special considerations before spraying. Typically, prior to spraying all substrates should be cleaned and degreased. Some roughening is advisable for thick coatings. Liquid primers are not required.

Thermal spraying

Refer to XIOM's Thermal Spray Manual for detailed processing guidelines. Before spraying, the surface to be coated should be heated to approximately 180° F. The spray torch or other heating device can be used. Begin spray immediately; the surface temperature will rise to 200° F plus during spray as the plastic stream melts (wets) on impact forming a continuous cured film. No bond coating is needed when this procedure is followed.

Technical Specifications:

Typical Powder Information	Fine powder sized for thermal spraying
Coverage (100% efficiency)	118 to 148 sq ft/ lb / mil. Pigment color accounts for range.
Particle size	90% less than 53 μm
VOC content	None
Thickness limit	5-10 mils. Thicker coatings may crack under loading
Storage stability	Unlimited shelf life if stored < 90 F

Coating Performance Properties:

Performance Properties	Testing Method	Results
Specific gravity	Calculated	1.15-1.49 g/cc
Adhesion tape test	ASTM D 3359	4A on a scale from 0A to 5A For coatings applied directly to steel and for coatings applied to XT725 zinc bond coat.
Tensile strength*	ASTM D 4541	Exceeds 1236 PSI. Cohesive breaks before adhesive failure.
Hardness (Shore D)*	ASTM D 3363	Pencil hardness 3H
Impact resistance*(direct)	ASTM D 2794	30 inch pounds. No cracking. Coating thickness 0.009 inches.
Flexibility mandrel*	ASTM D522	A 0.012-inch thick coating exceeded the upper limit for flexibility for this test. Some minor cracks, no loss of bond. Elongation 5%. Same for XT600 atop zinc bond coat.
Tabor abrasion resistance*	ASTM D4060	50 mg loss, 1000cycles, 1000gm load
QUVA	ASTM B7	3000 hrs. Excellent gloss and color retention.
Salt spray (fog) resistance	ASTM B117	1500 hrs. No degradation and no lifting.
Humidity resistance	ASTM B7	Condensation during off cycle has no effect after 1500 + hrs.
Melt point and service temperature		230° F (110° C). Continuous service temperature not to exceed 180° F (82.2° C).

Flammability	FMVSS 302 09-98	DNI. Does not support combustion during or after ignition.
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* Testing done by KTA-TATOR INC

Material Spray Parameters:

	PSI	Flow
Main Air	70	-
Vibrator Air	12.5	-
Fluidizing Air	5	35
Material Feed Rate	7.5	5-10
Material Delivery	30	55
Gun Air	50	200+
Oxygen	55	25
Propane	50	7

Comments:

The multiplex technology in XT600 is patent pending and unique to the powder coating industry. Specially formulated for thermal spraying, this hybrid powder is designed to achieve high deposit efficiency, very strong substrate adhesion plus easy wetting and flow, thus forming continuous impermeable smooth coatings

For steel substrates always use XT725 zinc rich bond coat first to retard corrosion and extend life.

A range of colors is available. Refer to the post coating number sequence. The first two digits define the base color and the last two digits identify the shade available for that color. Refer to the color charts for desired color and shade desired. For CLEAR, the number sequence will be XT 600-00-00.

Coating Characteristics:

- Weatherable finish with excellent physical properties.
- Smooth coating with architectural quality.
- Outstanding flexibility between freezing and 175^o F (80^o C).
- Low moisture absorption.
- Tough and adherent coatings.
- Good UV stability promotes better outdoor weathering properties.
- High impact, wear resistance.

XIOMTEK 600 powders are designed as one-step coatings for application to most substrates without the need for bond coats or primers. Coatings have excellent outdoor weathering properties and are therefore recommended for long-term exposure. They are easy to spray and forgiving of most thermal spray problems. The coatings have excellent bonding attributes and no edge pull back.

Some recommended on-site applications include:

- Decorative coatings for steel, concrete, masonry walls, fiberglass and wood

Health and Safety:

XT 600 powders are supplied as a finely divided powder. While there are no known health hazards associated with this powder, normal handling precautions for dealing with fine organic powders should be taken, i.e., excessive dust generation and inhaling of the powder should be avoided. Always wear a proper dust mask and adjust facilities for removing excess dust from the working area during handling.

It should be appreciated that the information given here is, to the best of our knowledge, true and accurate. However, since conditions under which our materials and equipment may be used are beyond our control, recommendations are made without warranty or guarantee.

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For ordering information, please contact your regional distributor.